Iowa Hospital for the Insane (State
Mental Health Institute), Main Building
Northwest edge of town, north of West
Main Street
Clarinda
Page County
Iowa

HABS 10WA, 73-CLAR,

# **PHOTOGRAPHS**

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Buildings Survey
National Park Service
Department of the Interior
Washington, D.C. 20240

# HISTORIC AMERICAN BUILDINGS SURVEY

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52

Location:

Northwest edge of town, north of West Main Street, Clarinda,

Page County, Iowa

Present Owner:

State of Iowa

Present uses:

Care of mental illness, treatment of alcoholism, treatment

for drug abuse, clinic for adolescents, rehabilitation, etc.

Significance:

Third of the four state mental hospitals to be built in Iowa. The building was the first of them to be designed by an Iowa firm of architects, Foster and Liebbe, of Des Moines. The architectural planning of the building followed the precedents established at the two earlier institutions. In the method chosen for accomplishing its construction—day labor under a superintendent—the precedents of the earlier hospitals were also followed. The building is also significant as a public building of considerable size in a late Victorian architectural style corresponding, in many of its decorative aspects, to the Eastlake style (57.1, pp. 122—125).

# PART 1. HISTORY

# Dates of construction:

Center portion of building and north wing: 1884-1888 (25, pp. 5,6; 28, p. 35).

South wing, for female patients: 1890-1893 (31, p. 12; 34, p. 5).

Chapel and amusement hall: 1892-1893 (12, p. 120; 34, p. 5).

Extension to north wing for violent and infirm male patients:

1894-1896 (35, p. 7; 37, p. 11).

Extension to south wing for violent and infirm female patients: 1896-1899 (35, p. 9; 38, p. 182, 858).

# Chronology:

- 1884 April 21 The Iowa Legislature approved a bill for the establishment of an additional hospital for the insane; \$150,000 was appropriated, not more than half of which was to be expended in 1884 (8, p. 220-222).
  - May 21 The Commissioners, who were appointed to select a location for the hospital in southwestern Iowa, met in Des Moines and proceeded to examine sites in the specified part of the state. They also visited the mental hospital at Independence, Iowa (25, pp. 3, 4).
  - July 16-18 Meeting in Des Moines, the Commissioners selected

    Clarinda as the location for the new hospital and,

    at about the same time, hired Foster and Liebbe of

    Des Moines as architects, with Foster to be the

    supervising architect (25, p. 4).

- Oct. 7 The Commissioners met to purchase a parcel of land in the vicinity of Clarinda. Ceorge B. Van Saun was selected as superintendent and resident commissioner (25, pp. 4, 5).
- Oct. Excavation began for the central building and for one patient wing, although proposals had not yet been sought for the building construction contract (25, pp. 5, 6).
- Nov. 11 The Commissioners advertised for construction contract proposals, which came in higher than expected (25, p. 5).
- 1885 Spring Foundation work, postponed from the previous fall, was continued and construction was in progress, using day labor under superintendents (25, p. 6). William Butler fought in the legislature for an appropriation to complete the building (1, p. 351).
  - July 4 Cornerstone laid (25, p. 6). M. T. Butterfield elected overseer and timekeeper (27, p. 4). The Commissioners expressed the hospital needs to be: a kitchen, a laundry, a boiler room, and another wing (for females). They requested \$150,000 a year until the buildings were completed, which was estimated as 1887 (25, p. 7).
- 1886 Jan. 19-20 The Joint Committee's first visit to Clarinda.
  - April 6 \$103,000 was appropriated to continue construction, half to be drawn in 1886 and half in 1887. Although the Commissioners had requested \$150,000 per year, the architects' estimate was \$103,000 to finish

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 4)

construction work already started so that some occupancy was possible. Work was to be confined to the completion of the cottage wing and the administrative and supervising departments until additional funds were received. The Steward's department would be used for the kitchen and laundry, and temporary heating apparatus was once going to be located under the patient wing. The \$103,000 was insufficient because material costs rose and because it was decided to use permanent heating apparatus rather than temporary (27, pp. 5, 7; 9, p. 103).

1887

An appropriation of \$177,990 was requested for construction of six female wards (south wing) and of the kitchen department (27, pp. 5, 8).

#### Estimates:

Six wards for females, including water- closet annex	\$124,300
Corridor connecting with administration building	4,290
Kitchen department, complete	38,500
Corridors connecting with administration building	6,900
Boiler and laundry machinery	4,000 \$177,990

According to the architects, if appropriations were made immediately, construction could be completed within 90 days, except for the heating boiler. The estimate for the kitchen department was based on a kitchen with a capacity to serve the patient population according

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State **Me**ntal Health Institute, Main Building) HABS No. IA-52 (page 5)

patients, and it was the Commissioners' approach to construct all the auxiliary buildings, i.e. kitchen, laundry, boiler rooms, etc., large enough so that enlargement or replacement would not be necessary. With this size of kitchen it would be possible to use the extra, presently unused space for temporary laundry and boiler room purposes. An alternate plan proposed that with an additional \$50,000 a permanent boiler department could be provided, allowing the space not yet needed in the kitchen department to be used for a chapel and for amusement purposes (26, p. 7; 27, pp. 5-8).

- 1888 April M. T. Butterfield was nominated steward and assigned duty as assistant superintendent of construction (28, p. 14).
  - April 11 \$82,000 was appropriated for completion of buildings

    (kitchen department, corridors connecting main building,
    and unfinished main building); \$20,000, for furnishings
    and equipment (28, p. 8; 10, p. 153).
  - Dec. 12 Ninety male patients were sent to Clarinda from the hospital at Independence; 126 from Mount Pleasant; six from Mount Mercy, Davenport.

Buildings ready for occupancy included: central administration building, providing all officers head-quarters and accommodations for forty patients; the supervisors department and a right north wing of six wards for 200 male patients (28, p. 35).

1889

Dec. 15

By the end of this year, the six male wards intended for 34 patients each were already serving 45 to 50 patients each. A cold, damp room in the basement with difficult access was used for chapel services, seating 50 to 75 persons. Superintendent Lewellen requested improved conditions in these two areas. However, in the architects' estimates, prepared for the requesting of appropriations, no mention is given for extension of the male wing, but \$130,000 was asked for a wing for females; \$38,000 for a chapel and amusement hall; and \$61,200 for a boiler room and related equipment. The need for a separate boiler house was contingent on whether or not the female wing was constructed. If it were, the spare kitchen space would be needed as kitchen space, and the boiler equipment would require a new location (28, pp. 18, 26, 35; 31, p. 21).

1890 Feb. 22 The Joint Committee met at Clarinda and decided to recommend additional appropriations to build and furnish a wing for female patients (29, pp. 3, 4).

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 7)

April 24 \$135,000 was appropriated for construction and furnishing of an additional wing for females; \$4,000 for corridors connecting the main building. A third of the appropriation was staged in 1890 and two thirds in the following year. The appropriation was so much less than what was asked that the architects were compelled to revise their original plans, including the elimination of the engine room and portions of the boiler room. The chapel and amusement hall were temporarily eliminated (31, p. 12, 13; 11, p. 96).

June 30 The hospital was accommodating 309 patients in rooms designed to serve a total of 240 (31, p. 22). Full plans for permanent landscaping were prepared in 1890 and some grading of the site was completed. The "landscape artist" was A. N. Carpenter, who also did the planting (31, pp. 7, 9, 17, 19).

The Trustees asked for appropriations to build a ward for violent patients at an estimated cost of \$130,000. In addition they requested \$30,000 for a laundry and auxiliary building; \$30,000 for an engine room and \$28,000 for a chapel and amusement hall. They recommended consideration of a gymnasium since "no eastern hospital is considered complete without one" (31, p. 10; 12, 21).

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 8)

1892 April 8 \$15,000 was appropriated for the laundry and drying room, \$22,000 for the chapel and amusement hall construction and furniture. The appropriation was from 20% to 60% of what was asked; so the original plans were altered in size and the policy of constructing fireproof buildings was abandoned. The Commissioners of 1887 estimated that fireproof construction added 33% to the cost (12, p. 120; 32, p. 46; 27, p. 3).

June 30 The total cost of the hospital, including grounds, buildings, and furnishings to date was \$597,018. It was estimated that an additional \$364,000 was needed to complete the original plan for the accommodation of a thousand patients, thus bringing the total cost to \$961,000, or about a thousand dollars per patient, the figure which had been used in estimating at the other state mental hospitals (32, p. 10).

Aug. 30 An appropriation of \$236,000 was requested for two wards for violent patients (the amount to be divided equally between the two wards), and \$25,000 was requested for an infirmary (32, p. 48).

The wing for female patients was completed and the decoration of the wards was in progress; the chapel and amusement hall were completed by this time (34, p. 5).

The Visiting Committee questioned whether additional wards should be added to the hospital because (1) access from the tributary territory of the state was difficult and (2) the water supply was critically limited. The Committee recommended against increase, but its advice was not heeded (34, p. 8).

1894 March 30 \$95,000 was appropriated for one ward for violent patients, in the male wing. The appropriation was staged over two years. \$5000 was also appropriated for an industrial building (35, pp. 7, 8).

An appropriation of \$109,000 was requested for completion of the female wing with wards for violent and infirm patients (36, p. 9).

1896 April 17 \$199,300 was appropriated as follows: \$109,000 for violent and infirmary wards for female patients; \$13,500 for finishing and furnishing violent and infirmary wards of the male wing; \$3,000 for an industrial shop; \$22,200 for a new boiler building; etc. (37, p. 13; 13, p. 149).

1897 Board of Trustees dissolved.

Appropriations were requested for verandahs for the old wards, for an employees building, and for a general dining room -\$30,000 total (37, p. 15).

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 10)

1898	The Board of	Control	of State	Institutions	was	formed.
	Clarinda had	811 pati	ents.			

- April 9 An appropriation of \$6600 was asked for the finishing of the female infirmary and violent wards (14, p. 97).
- 1899 Four female wards (infirmary and violent) were completed (38, p. 182).

# Architects:

The architects for the main building were the Des Moines firm of Foster and Liebbe - William Foster and Hanry F. Liebbe (25, p. 4).

Henry Liebbe served as architect for work designed after 1898 (the date of the State Board of Control formation) until 1926, while he was serving as architect for the board (38, p. 22; 57, p. 3). He appears also to have practiced privately during this period in the firm of Liebbe, Nourse, and Rasmussen, after dissolving his connection with Foster (55.4, p. 852).

William Foster was born at Little Neck, New York, on July 21, 1842, or possibly 1841 (5; 6; 7, p. 804; 58). After completing his education in New York, he entered the employ of Richard Upjohn, a prominent New York City architect of the time (7, p. 804). This experience was probably his main source of architectural training. Subsequently, Foster entered business as a contractor and planning-mill operator in Flushing, New York (58).

In 1867 Foster, at about twenty-six years of age, came to Des Moines, where he and his brother Samuel started a planning mill and sash and door factory (58, p. 804; 3.7, p. 39). In addition, both brothers are listed in the city directory as carpenters, and William is listed as an architect (3.7, pp. 39, 129, 132, 139). The specifications for the Wesley Redhead house and barn date from 1867 and are evidence that Foster was practicing as an architect at this time (4). By 1870 the Foster brothers were no

Sources of information on Foster and on Liebbe and limited. There is a photostatic copy of pages from what appears to be a scrapbook of newspaper clippings on Foster's career, but ment of the clippings lack dates. The Des Moines city directories furnish some useful information and a copy of Rudolph Weitz's Sept. 6, 1969 talk to the Des Moines Pioneer Club is helpful. The History of Polk G. By and Brigham's Des Moines give some information also.

longer in the planning mill business, and William was no longer listed as a carpenter in the city directory, but only as an architect (3.1, pp. 71, 176, 178, 187). In 1868 Foster married Miss Louisa Corbin, a native of England (7, p. 804). Her death left him a widower for a while, and then he remarried on February 24, 1886 (5). His second wife was Miss Louise A. Harris of Des Moines, and the couple had three daughters: Mary, Helen, and Fanny (58).

Around 1872 Foster became a member of the firm L. W. Foster and Co.

L. W. Foster was a resident of Lincoln, Nebraska, and may have been another brother of William's. This connection probably explains certain Nebraska commissions for the firm. Henry F. Liebbe, born in Germany, worked for the firm as a draftsman (3.2, pp. 79, 119, 195; 3.3, pp. 69, 165). Although German born, it is unlikely that Liebbe was trained in the German architectural schools, for with such training he would more likely have been in practice on his own, not as an employee. Also, German-trained architects, who did not appear in Indianapolis until the 1880's, probably would not have appeared in Des Moines, a smaller and less prosperous city, any sooner.

Around 1875 the Nebraska connection was dissolved and Foster continued the practice on his own, with Liebbe in his employ, until around 1883, when the two men established the firm of Foster and Liebbe. They continued this association until 1898, when Foster retired from architectural practice (3.4, pp. 88, 133, 221; 55.3, p. 758; 55.4, pp. 310, 852). For a short time around 1895 a third partner, Oliver O. Smith, was included (55.2, pp. 535, 679). Upon Foster's retirement, Liebbe formed a partnership

Brigham's mention of the Hewitt wholesale grocery building, 1883, as the work of Foster and Liebbe adds evidence for this date (2, p. 297).

with Clinton C. Nourse and Edward F. Rasmussen, and the firm of Liebbe, Nourse, and Rasmussen continued until around 1926, when it appears that Liebbe either retired or died (55.4, pp. 557, 600, 852; 57, p. 3).

On retiring from architecture, Foster was able to devote his full attention to another occupation, one in which he had been engaging for several years. Around 1880 he had become the proprietor of the Academy \*\*Music at Fourth and Walnut Streets in Des Moines, changing its name a about three years to the Foster Opera House (3.5, p. 179; 3.6, p. 283). By about 1891 he was also manager of the Grand Opera House, and around 1901 was lessee and manager of the Auditorium, thus virtually monopolizing the theatrical industry in Des Moines (5; 55.1, p. 266; 55.5, p. 345). In addition he had run unsuccessfully, for mayor of Des Moines on the Citizens ticket in 1890. He campaigned on his honesty and absolute adherence to the rules, emphasizing that he could not, by his nature, be swayed from his opinions by any type of pressure. He stated:

My business record of twenty-four years in this city is the best guarantee that I can offer to the citizens that I am not to be controlled against the dictates of my own judgment (56).

William Foster died on December 30, 1909, asphyxiated because a gas jet in a bathroom heater was accidentally left open. At his death Foster's estate was valued at \$240,000 plus \$25,000 worth of life insurance (7).

As an architect, Foster was typical of the first group of architects who practiced in Iowa, and his practice was one of the largest of these men's. He was educated in his profession through the apprenticeship system and he practiced also as a building contractor and as a superintendent of construction. The specifications for the Wesley Redhead house and barn,

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 14)

dated 1867, begin with a printed first sheet whose contents are indicative of Foster's professional stance. The sheet has the following heading:

William Foster, Architect, Builder, and Superintendent, Gives Special Attention to the Preparation and Execution of Plans and Designs for Cottages, Rural Improvements, Stores, &c Reliable Estimates of Cost Furnished (4).

The page concludes with the following statement:

The undersigned does not assume any professional responsibility in issuing these Specifications and accompanying Drawings, unless he is regularly engaged, as the Architect, to superintend the execution of the work therein set forth, and the contractors bound by contract to do the same to his entire satisfaction, and all payments for work to be made only upon his certificate (4).

The second group of architects practicing in Iowa, beginning perhaps about 1890, were generally men who had received a professional education in the architectural schools that were beginning to appear in American universities, although often they might not have attained the degree.

See Appendix A for a list of buildings by Foster and by Foster and Liebbe.

# Landseape designer:

A. N. Carpenter was paid for landscape plans in 1891 and for landscape gardening in 1891 and 1892 (31, pp. 17, 19).

# Original and subsequent owners:

Iowa Hospital for the Insane at Clarinda (28)

Clarinda State Hospital. The name was changed to this in 1902 by Act of the State legislature in order to avoid the stigma associated with the word "insane" (15, p. 28; 38, p. 111).

State Mental Health Institute at Clarinda. Present name.

# Contractors, suppliers, etc.:

The work contracted for in 1854 involved the following contractors (25, p. 5):

Pfeiffer Stone Co.: cut stone

Dearborn Foundry Co.: irodwork

C. R. Mather: brick

C. W. Parker: roofing and cornice work.

# Process of design:

On April 21, 1884 the General Assumbly of Iowa approved the bill for the establishment in southwest. In Iowa of a new hospital for the insane. The law required the governor to appoint three "suitable Iowa residents... to constitute a board of commissioners for the purpose of selecting the location and site, adopting plans and exacting" the new hospital (8, p. 220). The commissioners, George W. Edwis, E. J. Hartshorn, and J. D. M. Hamilton, shortly after their meeting in Des Moines on May 21, 1884, undertook a preliminary examination of several possible sites in the south-western portion of the state. Next they met at the state mental hospital in Independence, Iowa, to familiarize themselves with the site requirements of a mental hospital, discussing the matter with Dr. Gilman, the superintendent there. In addition, the commissioners investigated and visited several hospitals, including those at Kankakee, Illinois; Kalamazoo, Michigan; Willard, New York; Morristown, Pennsylvania and Cleveland, Ohio. Meeting again in Des Moines in mid July 1884, the Commissioners decided that the site should be at or near the city of Clarinda in Page County. Of the four mental hospitals in Iowa, the one in Clarinda is the only one whose location was selected by a board of commissioners; the other three

locations were determined by the legislature and stated in the bill establishing each hospital. No doubt for this reason, the bill mentions that "no gratuity or donation" would be allowed in the selection of the site (25, p. 3; 8, p. 220).

A strong rivalry developed among the towns of southwestern Towa to see which one would secure the new state institution. William Butler was recognized for his skillful management of the situation, and Clarinda citizens volunteered to show the commissioners that their area possessed the requirements that the bill called for: healthfulness, accessibility, abundant water supply, good drainage, and the possibility of a parcel of land of at least 320 acres in size (8, p. 220). On October 7, 1884 the commissioners purchased 513 acres about a mile and a half north of Clarinda for \$29,425. The land was situated on a plateau overlooking the city to the south, the Nodaway River valley to the east and fronting on a highway. The soil was good and portions of the land were rented for farming until the hospital was occupied (26, p. 3; 1, pp. 4, 5; 4, p. 5).

Apparently it was at the July 1884 meeting of the commissioners that Foster and Liebbe of Des Moines were selected as architects. By this time many decisions concerning the character of the building had been determined, and there is no indication in the Legislative Documents that the architects were consulted earlier or that they participated in the visits to other hospitals. However, a newspaper article states that Foster, as supervising architect, traveled to Clarinda for the selection of the site with J. D. M. Hamilton and George B. Van Saun, that he went east for a month to study asylums there, and that, with the concurrence

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 17)

of the Board of Commissioners, he decided upon a general plan combining both the cottage and the pavilion systems (54). However, the bill establishing the hospital quite explicitly states certain design criteria: "the board of commissioners... shall adopt the plan known as the cottage plan and all buildings so erected shall be substantially fire proof. The exterior of the buildings shall be plain and brick." The commissioners "decided upon a combination of the cottage and corridor systems... a modification of both... to embrace the advantages without the objectionable features of each." Sections of wings, with rooms on both sides of a corridor, were distinctly separated by a length of corridor. The Kankakee Hospital, visited by the Commissioners, was of completely detached wards extending to the north and south of a center building, but this model was not followed without changes (25, p. 4; 26, p. 4; 37, p. 8; 8, p. 221).

William Foster, the senior member of the architectural firm of Foster and Liebbe, was recognized by the commissioners as having "great advantage and knowledge in the preparation of the necessary plans" because of his previous experience, and his plans were unanimously adopted upon presentation. The junior partner, Henry F. Liebbe, later became the architect for the Board of Control of the state, and he served in that position for several decades (25, p. 4).

# Process of construction:

In the bill of the Twentieth Ceneral Assembly in 1884 to establish an "additional hospital for the insane" in southwestern Iowa, several sections dealt with the method of construction.

(1) In addition to hiring a "competent Architect," the Commissioners were required to employ a superintendent of construction, "who may be the same person as the architect." The firm of Foster and Liebbe of Des Moines was selected, with Foster serving as supervising architect. George B.

Van Saun, president of the Board of Commissioners — he replaced Bemis, who resigned in the summer of 1884 — was also the superintendent of construction at a salary of \$1200 per year (26, p. 7). The Board, of which he was of course a member, selected Van Saun for that position so that he would be a constant watchdog and would share with the supervising architect "full authority over the progress of the work and its construction."

By 1888 the dual supervision was terminated; the office of superintendent and architect were consolidated in order "to cut down on a unnecessary expense of management." Van Saun remained as "financial agent" in charge of the bookkeeping and handling of all paper work. However, a new position was created; M. T. Butterfield was made overseer and timekeeper, "since it was impossible for the board to view the work more than once a month." It could be assumed that Butterfield managed only the labor force and that Foster controlled the method and quality of construction (27, p. 4).

(2) The Board of Commissioners was required, for all work involving more than \$10,000, to obtain bids, or proposals, for the material, labor, and construction by advertising for thirty days in four daily Iowa newspapers, one of which had to be in Des Moines. All contracts had to

22,100

be assigned to the lowest bidder. The requirement was similar to that in the construction of the mental hospital at Independence except that the recipient was described as the lowest "responsible" Lidder (25, p. 5; 8, p. 221).

On November 11, 1884 the Board advertised for bids and later accepted the following (25, p. 5):

Pfeiffer Stone Co.: cut stone at \$3.20 per cu. yd.,

including footing stone \$10,788

C. R. Mather: brick, including pressed front

Dearborn Foundry Co.: ironwork

delivered at the building; manufactured within

a quarter of a mile of the buildings 6.00 per thousand

C. W. Parker: roofing and cornice work 3,100

The 1886 Report of the Commissioners lists the expenditures of the \$150,000 appropriation made by the Twentieth General Assembly. Note that the expense of some of the items exceeds the bid prices (25, p. 26; 2, p. 5)

Hospital grounds (513 acres)	\$ 29,425.00
Derricks, windmill, tank and pipe, elevator, safe, tools, ete.  Hospital building:	2,953.91
Labor expenses	38,292.93
Iron and steel	22,803.28
Briek	18,993.56
Cut stone	10,917.62
Rock and sand (river sand, \$0.75/cu. yd.)	
(bank sand, \$0.90/cu. yd.)	9,852.60
Lumber	4,806.26
Cement and lime	4,150.13
Galvanized iron and slate roofing	2,175.00
Hardware	385.56
Due on roofing contract	925.00
Due on brick contract	2,738.37
Balance on hand	1,580.78
	\$150,000.00

Only four of the bids were accepted; the others were considered too high and were rejected in favor of construction by day labor; and the superintendent and architect were ordered to make "such contracts relative thereto as may from time to time seem proper to them." In 1886 the commissioners appraised the decision to use day labor to have "cost less than the amounts named by the rejected bids." Prices paid for labor in 1886 at the Clarinda hospital were (26, p. 5; 25, p. 5; 27, p. 3)

Laborers: \$1.50 to \$1.75 per day

Stone masons: \$3.00 to \$3.50 per day

Brick masons: \$3.50 to \$4.00 per day; foreman \$120 per month

Carpenters: \$2.50 per day; foremen \$120 per month.

- (3) Effort was demanded to control costs. The Commissoners were required to obtain building cost estimates, work which it is assumed was always within the architect's responsibilities. The following case is an example: In 1888 the Commissioners reported that the estimate for the addition of six female wards and a kitchen department was "as per architect's estimate." After certification of construction expenditures by the superintendent of construction and auditing and approval by the Commissioners, contracts would be paid by warrants of the state auditor. The Commissioners were also authorized to advance and pay on incomplete contracts up to seventy-five percent on estimates of material delivered and labor performed. Payrolls for labor performed were signed in duplicate and receipts were available for inspection for all money expended (26, p. 5).
- (4) The first appropriation of \$150,000, which was provided by the bill of April 21, 1884, limited the expenditure to \$75,000 degrees that year. Although this did not cause scheduling problems in 1884 because

construction was started late in the season, similar restrictions were imposed with later appropriations throughout the construction of the hospital. These, no doubt, did cause delays in the construction process, as did the failure to make appropriations promptly. It was also the case that the delay of an extra year often meant not being able to complete the anticipated project because of increased costs. The Board of Trustees in 1895 were able to circumvent the problems of this method of appropriation by the help of cooperating contractors and workers who were willing to accept for labor and material checks due and payable at a later period, thus allowing the work to continue (35, p. 8).

Throughout the period of construction it was necessary to make adjustments so that spaces could function for undesigned uses:

- The extra expansion portion of the kitchen was used for laundry and boiler purposes. If a permanent location were made for these, then the extra kitchen could be adapted for amusement purposes (27, p. 6).
- 1889 The use of connecting corridors for patient wards was suggested; the rooms for assistant physicians could be converted into patient sleeping rooms (30, p. 7).
- 1891 Religious services were held in wards; in 1889 services were held in a basement room, which was damp, difficult of access, but "eommodious and well lighted" (31, p. 27; 28, p. 26; 26, p. 5).
- 1890- Offices were moved from the rear center to the front part of the 1892 center building "to allow use of corridors to fit up two pleasant wards for forty-four more patients." Dining rooms were "fitted up" in the basement bays. Dining rooms in the wards, except for the sick and demented patients' wards, were converted into dormitories. These changes were so satisfactory that there was "no desire to have it the way it originally was" (31, p. 22).
- 1895 Basements were still used for dining rooms and sitting rooms
  July because of crowded hospital conditions (36, p. 5; 40, p. 879).
- 1897 Trustees suggested converting the brick stable into a boiler room because of its unsuitable location. The prevailing winds carried odors over the entire hospital building, especially the infirmary wards of the male patients wing (37, p. 14).
- 1901 Remodeling of the kitchen provided "excellent rooms for employees."

  Evidently an intermediate floor was added for the employee quarters above (39, p. 100).

#### PART 2. DESCRIPTION

The hospital site is elevated relative to the Nodaway River Valley, which is to the west, and to the town of Clarinda, which is to the south, yet the site is obscured by landscaping and natural woods immediately around the building. The chimney and the bright red, domad water tower are the main landmarks.

The main building complex faces toward the southeast. The formal approaches to the grounds lead from a paved road at the eastern boundary of the property. Stone gateposts with iron gates mark the entrances; the one furthest to the south is no longer in use, but the contours of the approaching road here can still be discerned by the eye. This entrance would be more dramatic and would permit a grander view of the buildings than the one primarily used, which directly approaches the center building from the east. However, this straightforwardness is consistent with the baseball diamond and the miniature and regular golf courses which now envelope the front grounds.

In general, the building complex is built with red brick bearing walls. Grey stone is used as string courses, labels at openings, window sills, and dormer gable fronts. According to the working drawings, foundation walls are of stone and the interior partitions are loadbearing and of brick. In the administration building, the floor of the first story is shown constructed of iron beams carrying brick jack arches with leveling on top of the arches. A different drawing indication is shown elsewhere, probably because plastered ceilings are used below, but the metal beams are shown. In general, the system is probably the same as the floor of the first story of the administration building, since the

building was intended to be fireproof. The roof system uses metal spanning elements. Cornice work appears to be of pressed metal.

The overall length of the main building complex is approximately 1150 feet, and it is approximately 390 feet deep at the centerline. The administration building is about 71 feet wide and 75 feet deep and is placed to the front and center of the complex. The wards at either side of the administration building are about 290 feet long. The remaining wards are shorter.

The administration building is three stories high and also has a dormered attic. The various wards have portions that are three and four stories high. In addition, there is a basement partly above ground at all of the buildings of the main complex. Roofs are hipped, except that at the administration building a mansard roof is used with dormers. is a five-story square tower at the center of the administration building at the front. The complex is a modified echelon plan with wings stepping back symmetrically from the administration building at the center. The service buildings are located behind the administration building. and women are separated on opposite sides of the administration building. The farthest building on each side is the infirmary. The central buildings are of late Victorian character resembling the Eastlake style in their decorative aspects, but the end buildings are quite simple, having few stylistic decorations and relying on the materials of the walls, the forms of building, and the openings in walls for esthetic interest (57.1, pp. 122-125). Interior partitions include many vertical ducts in their thickness, which are used to convey heated fresh air from a basement tunnel and to exhaust foul air to the outside, thus forming a winter ventilation

system. Mechanical means of moving the air were provided. There are toilet rooms and bathrooms in each ward, and the complex was wired for electric lighting.

Today many of the patient wards are quite bleak and it appears that no major remodeling has occurred. Ceilings are high, floors are uncarpeted and walls are painted in pale, lifeless colors. Easement areas, previously described as commodious and well lighted, are still heavily used, especially for such leisure activities as recreation therapy and the library. The corridors that connected the wards or "cottages" are empty wasted spaces, possibly used occasionally for storage. Several other more pleasant spaces are also presently unoccupied. For example, in the superintendent's quarters on the second floor of the center building, high ceilings, many fireplaces, and a sun-bathed morning room above the main entrance all make a very attractive apartment. The top floors of both patients wings are completely unused and have not been used for a long time, and yet the corridors are very cheerful with skylights flooding light into them. The attic spaces adjoining these corridors however have been used for some time; they are windowless and have rough board floors and exposed roof construction.

Perhaps the finest interior space is the stair shaft leading from the main lobby area to the superintendent's apartment above and to unoccupied patients rooms above that. A prism-shaped skylight allows light to penetrate from the roof to the lobby level four stories below. The entire staircase, wainscot, and balustrade were finely carved and are in good condition. This space is threatened with remodeling because it does not comply with current fire-safety regulations.

Some modifications in the buildings, however, have been made. The original chapel and amusement hall has been replaced by a multipurpose room.

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 25)

Many of the functions of the rear center building have been augmented, especially in the kitchen and dining area. Many of the original wooden windows in the complex have rotted and have been replaced with metal ones and concrete spandrel panels, apparently inserted to reduce the original openings to standard sizes.

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 26)

#### PART 3. SOURCES OF INFORMATION

(See abbreviations at end.)

- 1. <u>Biographical History of Page County, Iowa</u>. Chicago: Lewis and Dunbar, 1890.
- 2. Brigham, Johnson. <u>Des Moines, Pioneer of Municipal Progress and Reform in the Middle West, Together with the History of Polk County</u>.
  Chicago: S. J. Clarke Publishing Co., 1911.
- 3. "Building Business. The Work Being Done in an Architect's Office, a Splendid Showing for the City." Photostat, undated newspaper clipping in scrapbook, Des Moines newspaper.
- 3.1 <u>Bushnell's Resident and Business Directory of Des Moines, Iowa,...</u>

  January 1871. Des Moines; Carter, Hussey & Curl, 1871.
- 3.2 <u>Bushnell's Des Moines Residence and Business City Directory</u>,

  <u>January 1873</u>. Des Moines: Capital City Publishing Co., 1873.
- 3.3 <u>Bushnell's Des Moines Residence and Business City Directory</u>,
  1874-1875. Des Moines: J. P. Bushnell & Co., 1874.
- 3.4 <u>Bushnell's Des Moines Residence and Business City Directory</u>,

  1876-1877. Des Moines: J. P. Bushnell and Co., 1876.
- 3.5 <u>Bushnell's Des Moines Residence and Business City Directory</u>,

  1881-1882. Des Moines: J. P. Bushnell and Co., 1881.
- 3.6 <u>Bushnell's Des Moines Residence and Business City Directory</u>,

  1884-1885. Des Moines: J. P. Bushnell & Co., 1883.
- 3.7 <u>Des Moines City Directory and Business Guide for the Year</u> 1869. Des Moines: Mills and Co., 1869.
- 4. Foster, William. "Specifications for Wesley Redhead House and Barn." Photostat of handwritten specifications booklet, dated 1867.

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 27)

- 5. "Foster Early Business Man of Des Moines." Photostat, clipping in scrapbook, undated.
- 6. "Foster's Death Shock to Friends." The Register and Leader (Des Moines), 31 Dec. 1909.
- 7. The History of Polk County, Iowa. Des Moines: Union Historical Co., 1880.
- 8. Iowa General Assembly. Acts and Resolutions, 1884.
- 9. IGA. A&R, 1886.
- 10. IGA. A&R, 1888.
- 11. IGA. A&R, 1890.
- 12. IGA. A&R, 1892.
- 13. IGA. A&R, 1894.
- 14. IGA. A&R, 1898.
- 15. IGA. A&R, 1902.
- 16. IGA. A&R, 1904.
- 17. IGA. A&R, 1907.
- 18. IGA. A&R, 1911.
- 19. IGA. A&R, 1913.
- 20. IGA. A&R, 1915.
- 21. IGA. A&R, 1917.
- 22. IGA. A&R, 1921.
- 23. IGA. A&R, 1923.
- 24. IGA. A&R, 1931.
- 25. IGA. Legislative Documents, 1886, Vol. 2. Report of the Joint

  Gommittee Appointed to Locate and Build an Additional Hospital for
  the Insane in Southwestern Iowa, 1885.

- 26. IGA. LD 1886, Vol. 2. Report of the Joint Committee Appointed to

  Visit the Additional Respital for the Insane Located at Clarinda,

  1885.
- 27. IGA. LD1888, Vol. 2. Lows Hospital for the Insane at Clarinda, Commissioners, Report, 1887.
- 28. IGA. LD 1890, Vol. 2. IFIC. Biennial Report, 1889.
- 29. IGA. LD 1890, Vol. 7. HHIC. Joint Committee, Report, 1890.
- 30. IGA. LD 1890, Vol. 2, IMIC, Visiting Committee, Report, 1890.
- 31. IGA. ID\_1892, Vol. 2. IHIC, BR, 1891.
- 32. IGA. LD 1894, Vol. 2. UNIC, BR, 1893.
- 33. IGA. LD 1894, Vol. 2, IHTG, JCR, 1894.
- 34. IGA. LD 1894, Vol. 2. INIG, VCR, 1894.
- 35. IGA. LD 1896, Vol. 2. IHIC, BR, 1895.
- 36. IGA. LD 1896, Vol. 2. IFTC, JCR, 1896.
- 37. IGA. LD 1898, Vol. 4. IHEC, BR, 1897.
- 38. IGA. LD 1900, Vol. 6. Board of Control, BR 1899.
- 39. IGA. LD 1902, Vol. 5. BC, BR, 1901.
- 40. IGA. LD 1904, Vol. 8. BC, ER, 1903.
- 41. IGA. LD 1906, Vol. 4. BC, BR, 1905.
- 42. IGA. LD 1907, Vol. 2. BC, BR, 1906.
- 43. IGA. LD 1909, Vol. 2. BC, BR, 1908.
- 44. IGA. LD 1911, Vol. 2. BC, BR, 1910.
- 45. IGA. LD 1913, Vol. 2. BC, ER, 1912.
- 46. IGA. LD 1915, Vol. 2. BC. BR. 1914.
- 47. IGA. LD 1917, Vol. 2. BC. BR, 1916.
- 48. IGA. LD 1921, Vol. 1. BC, DR, 1920.

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 29)

- 49. IGA. LD 1923, Vol. 2. BC, BR, 1922.
- 50. IGA. LD 1925, Vol. 2. BC, BR, 1924.
- 51. IGA. LD 1927, Vol. 2. BC, BR, 1926.
- 52. IGA. LD 1929, Vol. 3. BC, BR, 1928.
- 53. Mental Health Institute, Clarinda. "History of the Mental Health Institute." Typewritten sheet.
- 54. "Our Distinguished Visitor." Photostat, newspaper clipping in scrapbook, undated. Clarinda newspaper.
- 55. Portion of newspaper clipping, photostat, in scrapbook, undated and untitled.
- 55.1 R. L. Polk & Co.'s Des Moines City and Polk County Directory, 1892.

  Des Moines: R. L. Polk & Co., 1892.
- 55.2 R. L. Polk & Co.'s Des Moines City, Valley Junction, and Polk County Directory, 1896. Des Moines: R. L. Polk & Co., 1896.
- 55.3 R. L. Polk & Co.'s Des Moines City, Valley Junction, and Polk County Directory, 1898. Des Moines: R. L. Polk & Co., 1898.
- 55.4 R. L. Polk & Co.'s Des Moines City, Valley Junction, and Polk County Directory, 1899. Des Moines: R. L. Polk & Co., 1899.
- 55.5 R. L. Polk & Co.'s Des Moines City, Valley Junction, and Polk County Directory, 1902. Des Moines: R. L. Polk & Co., 1902.
- 56. "This Speaks for Itself." Photostat, newspaper clipping in scrapbook, dated Des Moines, Iowa, April 5 (no year).
- 57. Weitz, Rudolph. "Pioneer Building Industry in Polk County."

  A paper presented to the Pioneer Club (Des Moines) 6 Sept. 1969.
- 57.1 Whiffen, Marcus. American Architecture Since 1780, A Guide to the Styles. Cambridge: MIT Press, 1969.

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 30)

58. "William Foster and L. Bemis Asphymiated." Photostat, newspaper clipping in scrapbook, dateline Des Moines, 30 Dec. 1909.

# \* Abbreviations:

A&R Acts and Resolutions

BC Board of Control

BR Biennial Report

IHIC Iowa Hospital for the Insane at Clarinda

IGA Iowa General Assembly

JCR Joint Committee, Report

LD Legislative Documents

VCR Visiting Committee, Report

# Credits:

Field research and writing: John David Langholz, Teaching Assistant

Editing: Wesley Ivan Shank, Associate Professor

Department of Architecture

Iowa State University 1973-1974

Edited for HABS by Druscilla J. Null

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 31)

#### APPENDIX A

#### OTHER BUILDINGS BY FOSTER OR BY FOSTER & LIEBBE

One of the undated newspaper clippings in the scrapbook on Foster gives a list of "plans he has made and is now engaged upon" (3). Judging by known information about his work, especially the dates of some later buildings, it would appear that the article dates from about 1882. The information is given verbatim:

# IN DES MOINES

Des Moines Exposition, Walnut Street	\$55,000
Casaday's Bank, Third Street	8,000
Congregational Church, Locust Street	25,000
German Catholic, First Street	20,000
C. & L. Harbach, 4 story business block, Third St	18,000
Redhead and Wellslager, Court Avenue	9,000
Conrad Youngerman, 4th Street	8,000
Thos. Wright, Pleasent St. residence	11,000
A. Hosick, High Street residence	4,000
C. L. Webb, East Sycamore, residence	4,000
C. C. Nourse, 4th Street, improvement to residence	2,500
Jno. Brown, 6th Street, improvement to residence	1,200
Infirmary and Bisponsary, Mulberry and 8th Streets, Dr. Aborn	8,000
Wesley Redhead, addition to residence	1,200

The Guthrie County Counthouse as built in 1883-1884 follows a design prepared by Blake and less, architects. Thus the work in progress in Foster's office must have been preliminary work presented in an effort to get the commission, an unsuccessful effort, as it turned out. It is logical that he would have been doing this work around 1882, although it may have been done earlier.

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 32)

#### ELSEWHERE

Woodbury County Court House	\$80,000
Story County Court House	40,000
Guthrie County Court House	30,000
Panora High School House	6,000
Colfax School House	5,000
A. Crawford, Winterset, business house	4,000
Frankel & Bach, Oskaloosa, bank	6,000
Geo. Parker, Oskaloosa, business house	5,000
Geo. Bentley, Oskaloosa, dwelling	3,000
A. Dutton, Oskaloosa, dwelling	6,000
M. W. Stover, Marengo, Opera House	15,000
Catholic Church, Boone	15,000
Geo. Hazen, Newton, dwelling	5,000
G. S. Robinson, Storm Lake, dwelling	3,000
I. R. Mershon, Newton, hotel	30,000
R. A. Sankey, Newton, business house	15,000
C. E. Hedges, Sioux City, residence	20,000
Fillmore Co., Nebraska, Court House	32,000

The History of Polk County, Iowa, published in 1880, says about Foster's praetice:

"...he has planned many of the best buildings of Iowa and Nebraska, among which we may mention most of the prominent buildings of Des Moines, school-houses in Albia, Carroll, Montezuma, Dunlap, etc., State penetentiary, Lincoln, Nebraska, State penetentiary at Anamosa, and the insane asylum at Lincoln, Nebraska" (2, p. 804).

Brigham mentions the following buildings by Foster in Des Moines:

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 33)

Moore's Opera House, the first in Des Moines, opened in February 1874, apparently a \$40,000 addition to a building worth \$20,000 (2, pp. 272, 273).

The Iowa Exposition (referred to above as Des Moines Exposition), opened Oct. 5, 1876 (2, p. 281).

A wholesale grocery building at 2nd and Walnut for Charles Hewitt, by Foster and Liebbein 1883 (2, p. 297).

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 34)

#### APPENDIX B

#### LATER BUILDINGS ON THE HOSPITAL SITE

# Dates of construction:

Boiler House: 1890; 1896.

Laundry building: 1892; 1915-1916.

Men's cottage ("Southview"): 1904-1906.

Shop building (Industrial building): 1894-1896; new building: 1904-1905.

Women's cottage ("Northview"): 1907.

Farm cottage for men: 1911.

Psychopathic hospital: 1913.

Tubercular cottage for women ("Sunset Cottage"): 1917-1920.

Tubercular cottage for men " ("Pine Cottage"): 1921-1926.

New hospital building (Hope Hall): 1923-1925.

Addition to Hope Hall: 1931.

Information in the Legislative Documents, as given above, disagrees with information at the hospital, according to which the first tubercular cottage was "Sunset" for men and the second tubercular cottage was "Pine" for women.

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 35)

1899

A most urgent need of the hospital was for suitable protection for cows and hogs (38, p. 859).

Numerous repairs were needed, principally reflooring and grading and improvement of the grounds (38, p. 859).

1900

\$3000 was appropriated to enlarge the general kitchen.

1901

A new iron bridge across the creek at the south end of the property was purchased, erected, and placed in use to furnish access to the city over a new and shorter road (39, p. 101).

An addition to the shop building was recommended (39, p. 101).

A 142' by 52' two-story cow barn was built (39, p. 100).

1902 April 4

The name of the institution was changed to Clarinda State Hospital (15, p. 58).

1902 April 12

\$6000 was appropriated to enlarge the shop building, by building a two story addition and by making the present building two stories. \$30,000 was appropriated for land purchase (15, p. 137).

1903

An appropriation of \$70,000 was requested for a cottage and equipment. This cottage was to be completely separate from the main building, and for men who were "trusty and ablebodied" (40, p. 878). Appropriation was also requested for the shop building, \$7000 additional. The foundations of the present shop building were not sufficient to carry a second story, so it was decided to abandon enlargement plans and instead to construct

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 36)

a totally new shop building, for which the \$13,000 appropriated would suffice. It was a two-story brick structure (40, pp. 50, 77).

"A congregate dining room, closely and conveniently located to the general kitchen" was needed. Ward dining rooms could be converted to additional dormitories (40, p. 879).

The ornamental grounds were replanted with several thousand trees and shrubs (40, p. 77).

1904 April 12

\$65,000 was appropriated for construction, with connections and equipment, of a men's cottage ("South-view"). Appropriations were made for an identical cottage for the hospital at Cherokee. The cottages were originally planned for 100 patients, but it was determined that they could probably accommodate 140 comfortably. This cottage increased the hospital population to 1100 patients (41, pp. 45, 46; 1, p. 352; 16, p. 143).

The contract price for the new cottage was \$58,412.50;

1905

the heating and plumbing contract was \$3,578 (41, p. 72).

An appropriation of \$75,000 was requested for erecting, equipping, and furnishing of a women's cottage (41, p. 61).

The cottage for men was under construction (42, p. 9).

The new shop building was completed (41, p. 73).

The men's cottage, "Southview," was completed (42, p. 9).

An appropriation of \$75,000 was again requested for the

women's cottage (42, pp. 24, 31).

1906

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 37)

- 1907 April 10 \$75,000 was appropriated for the women's cottage,
  "Northview" (17, p. 212).
- 1907 May 20 Contracts were awarded for the women's cottage:
  \$55,440 for construction and wiring; \$5,969.50 for
  plumbing and heating (43, p. 10).
- 1909 Jan 20 The women's cottage was completed and occupied.
- \$50,000 was requested for two cottages for tubercular patients; \$20,000 for men's farm cottage, since fire had destroyed the former one this year (44, pp. 22, 49).
- 1911 April 14 \$20,000 was appropriated for a farm cottage to accommodate fifty men and their necessary attendants. Cost:
  \$17,890.21 for general construction, \$4,764.73 for fixtures and furnishings, \$851.80 for water system;
  \$1427.18 for electric works (18, p. 197; 45, p. 11).
- 1912 An appropriation of \$135,000 was asked for a psychopathic hospital and \$50,000 for a cottage for tubercular patients (45, p. 50).
- 1913 April 25 \$135,000 was appropriated for the psychopathic hospital, but sufficient funds out of millage tax were not available for construction to begin because the Board had to meet other obligations. The millage tax system was adopted by the legislature in 1913 to "enable the Board to work out and make purchases to greater advantage to the state than the old way of appropriating lump sums" (46, pp. 15, 24; 19, p. 429).

1914		A \$25,000 appropriation was asked for the new laundry
÷		building and equipment (20, p. 327).
1915	April 20	\$25,000 was appropriated for the new laundry building
		and equipment (20, p. 327).
1916		The laundry building was completed.
	•	An appropriation of \$50,000 was requested for separate
		tubercular cottages; \$40,000 for a tubercular hospital
		(47, pp. 13, 49).
1917	April 21	\$40,000 was approved for the construction of a new
		tuberculosis hospital. The appropriation was sufficient
		to construct a hospital to accommodate only the women
		tubercular patients (49, p. 22; 48, p. 10; 21, p. 297).
1920		The tuberculosis hospital was completed and in use
		(21, p. 297).
1921	April 9	\$15,000 was appropriated to complete a tuberculosis
		hospital for men (49, p. 22; 22, p. 336).
1923	April 19	\$125,000 was appropriated for a new hospital building
		(50, p. 21).
		\$8000 additional was appropriated for the men's
		\$8000 additional was appropriated for the men's tuberculosis building (23, p. 337).
1925		
1925		tuberculosis building (23, p. 337).
1925		tuberculosis building (23, p. 337).  The new hospital building was completed. Bids were
1925 1926		tuberculosis building (23, p. 337).  The new hospital building was completed. Bids were secured within the appropriations for a cottage for
		tuberculosis building (23, p. 337).  The new hospital building was completed. Bids were secured within the appropriations for a cottage for tubercular patients.

IOWA HOSPITAL FOR THE INSANE, MAIN BUILDING (State Mental Health Institute, Main Building) HABS No. IA-52 (page 39)

(It is assumed because of following mention of additions, that Hope Hall is what was referred to as the new hospital building) (52, p. 7).

1931 April 30 \$45,000 for the addition to Hope Hall was appropriated (24, p. 220).